DOCUMENT RESUME

ED 349 478 CE 062 082

TITLE	Beyond the School Doors.
INSTITUTION	Business Council for Effective Literacy, New York, NY.
PUB DATE	Oct 92
NOTE	5p.; For the document upon which this article is based, see CE 061 976.
PUB TYPE	Journal Articles (080) -- Reports - Research/Technical (143)
JOURNAL CIT	BCEL Newsletter for the Business & Literacy Communities; n33 p1,6-7,10 Oct 1992
EDRS PRICE	MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS	Adult Basic Education; Adult Literacy; Blacks; *Educational Attainment; Educational Research; Educational Status Comparison; *Employment Programs; Federal Programs; Females; Hispanic Americans; *Illiteracy; Job Training; Males; National Surveys; *Participant Characteristics; Racial Differences; Sex Differences; Underemployment; *Unemployment; Unemployment Insurance; Whites
IDENTIFIERS	*Employment Service; *Job Training Partnership Act 1982

ABSTRACT

From November 1989 to June 1990, the Educational Testing Service (ETS) conducted an individually administered assessment of a representative sampling of some 6,000 adults to determine the literacy skills of the 20,037,087 persons being served by the Job Training Partnership Act (JTPA) and Employment Service/Unemployment Insurance (ES/UI) programs, both administered by the U.S. Department of Labor (DOL). ETS's approach to measuring and defining adult literacy was based on a new scaling system specifically designed to reflect the realities of everyday adult life and work. ETS tested for proficiency in three domains: prose, document, and quantitative literacy. Individual scores were plotted along a vertical scale ranging from 0 to 500 for each of the domains measured. To interpret the results, ETS grouped tasks and associated skills into five levels, showing the distribution of proficiencies across the levels. The survey's major overall finding was that these two DOL population groups, which constituted a significant proportion of job seekers, were deficient in their literacy skills to an alarming degree. The literacy skills of 7.5 to 8.7 million individuals were at the lowest proficiency levels. Across the three scales, women in both DOL programs performed somewhat higher, young people aged 16 to 25 had significantly lower literacy proficiency, and Blacks and Hispanics performed about the same, though both scored well below Whites. Data show a very strong correlation between education completion level and literacy proficiency. (YLB)

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BCEL BUSINESS COUNCIL FOR EFFECTIVE LITERACY

ADULT LITERACY: PROGRAMS • PLANNING • ISSUES Newsletter For The Business & Literacy Communities

NO. 33 OCTOBER 1992

ED349478

BEYOND THE SCHOOL DOORS

From November 1989 to June 1990, under contract to the U.S. Department of Labor, the Educational Testing Service conducted an individually-administered assessment of a representative sampling of some 6,000 adults to determine the literacy skills of the 20,037,087 persons being served at that time by the Job Training Partnership Act (JTPA) and Employment Service/ Unemployment Insurance (ES/UI) programs. [Ed. Note: *This survey should not be confused with ETS' National Adult Literacy Survey (NALS) which is presently assessing the literacy levels of the whole adult population and which is a project of the U.S. Department of Education.*] Last month, ETS' findings were released in a 120-page public report called Beyond the School Doors: The Literacy Needs of Job Seekers Served by the U.S. Department of Labor.

Based on the national sample, the survey's major overall finding is that these two DOL population groups, which constitute a significant proportion of America's job seekers, are deficient in their literacy skills to an alarming, indeed shocking, degree: the literacy skills of 7.5 million to 8.7 million individuals (of the 20 million plus) are at the lowest proficiency levels (see table on page 7). At these levels, *they are severely restricted from participating in the workplace, qualifying for jobs, or functioning in an increasingly complex society in general.* For these people, and to some extent for those at mid-range (another 7 million people), the bottom-line message is clear: *there is a critical need for the nation to invest in human capital development way beyond anything currently envisioned.* In other words, there is a hot connection between the nation's future economic viability and the literacy levels of the majority of people served by these two DOL programs.

The meat of the ETS assessment story is in its general and specific findings. But ETS has broken new ground in other highly substantial ways as well. For example, its approach to measuring and defining adult literacy is based on a new scaling system specifically designed to capture and reflect the realities of everyday adult life and work. This represents a much-needed departure from the use of grade-level equivalency notions and thus challenges traditional thinking about adult education and schooling. More to the point, the way ETS measures and characterizes adult proficiency levels, as explained below, provides a far more informed and meaningful basis for making judgments about how best to target, design, and fund programs for them. Policymakers and program providers alike should benefit from this new understanding. Equally important, for the first time the

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SCHOOL DOORS

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nation has a solid empirical baseline of information from which to measure proficiency changes over time in the two groups surveyed, as well as a basis for eventually making comparisons with the general population.

The remainder of this article provides a brief overview of the assessment project and summarizes its key findings. [*Readers are urged to obtain a copy of the full ETS report, however, as one short article cannot capture all the important fine points and interrelationships.*] It should be noted that the ETS assessment included not just a test of literacy skills, but also a careful and systematic gathering of demographic data from each individual assessed so as to understand the relationship between performance levels and such variables as gender, age, race/ethnicity, educational attainment, use of literacy materials in the home, civic participation, and the like.

The JTPA & ES/UI Programs & Clients

The Job Training Partnership Act and the Employment Service/Unemployment Service programs are the main job training and service programs of the U.S. Department of Labor and of the nation. JTPA, begun in 1982 as a replacement to the CETA program, has as its goal "to bring the jobless into permanent, unsubsidized, and self-sustaining employment by providing training, basic education, job counseling, and placement." JTPA's constituency is quite varied and includes economically disadvantaged adults and youth, dislocated workers, and others facing serious employment barriers. The group includes experienced workers, new entrants and re-entrants to the workforce, those whose employment tends to be seasonal or irregular, and others. The "common thread among these diverse candidates is a persistent difficulty in finding jobs," says ETS.

The Employment Service/Unemployment Insurance programs, established in 1933 and amended in 1982, is a linked federal-state system of public employment services. The purposes of the Employment Service are several-fold: to help job seekers find employment commensurate with their skill levels, to help employers fill job openings with qualified workers, to provide an array of information on labor market conditions, to provide job counseling services, and to assist the unemployment insurance system in exercising its responsibilities. The Unemployment Insurance program was established in 1935 to provide "temporary income protection for involuntarily unemployed workers." The ES/UI client population consists of anyone receiving its counseling services and/or receiving unemployment benefits.

During the period of the ETS survey, the JTPA and ES/UI programs served a combined population of 20,037,087 individuals. Of this number, JTPA clients accounted for only 5% of the total pool (or 1,100,000 adults) and ES/UI clients accounted for 95% (or 18,937,087 adults). JTPA, in general, tends to serve a substantially younger population than ES/UI.

Defining Literacy

ETS adopted for this survey the definition it originally used for the 1986 NAEP assessment of 21-25-year-olds: *Using printed and written information to function in society, to achieve one's goals, and to develop one's knowledge and potential.* [Ed. Note: This definition was incorporated into the broader definition of The National Literacy Act of 1991.] The survey definition rejects any arbitrary standard for literacy and implies information processing skills that go beyond decoding and comprehending school-like texts. Literacy is understood as the skill/ability to do something, to function well in a task or domain of tasks rather than simply possessing knowledge. "The emphasis," says the study, "is on literacy as a tool which enables people to participate more fully at work, at home, and in their communities." Literacy skills allow individuals to use printed and written information so that they are able, among other things, to take part in local and national government...to get, hold, and advance in a job...to understand and obtain legal and community services...and to manage a household.

In pursuing these activities, says ETS, people interact with many different types of printed materials for different purposes. The resulting wide array of literacy behaviors thus requires different types of skills and knowledge that are better represented along a continuum rather than as an all-or-nothing condition. Put another way, literacy does not exist on a single dimension, and it is misleading to talk in terms of a single cutpoint or standard that separates the "literate" from the "illiterate" person.

Literacy (as distinguished from the basic skills—which include but are not limited to reading, writing, and math) requires that individuals be able to process and use prose, document, and quantitative information at various levels of complexity depending on the tasks being performed and the literacy requirements of those tasks. Thus, the use of cutpoint terms provides little guidance or understanding about the nature of the problem or the types of programs and services that could be helpful in addressing it.

Prose, Document, & Quantitative Literacy

It will be helpful in interpreting the ETS survey findings to be familiar with what prose, document, and quantitative literacy are and how ETS tested for proficiency in the three domains:

- Prose Literacy involves the knowledge and skills associated with understanding and using information from texts—for example, the skills a voter would need to understand editorials about complex civic issues.
- Document Literacy refers to the knowledge and skills associated with locating and using information in tables, charts, indexes, and the like—what an adult might need to know and do, for example, to decipher a pamphlet containing tables about health insurance benefits.
- Quantitative Literacy is the knowledge and skills associated with performing different arithmetical operations, using information imbedded in both prose and document materials—e.g. skills needed to fill out an order form or to manage a checking account.

In the ETS assessment, blocks of individual test items were developed to measure literacy skills in each of these three areas. The individual test items were based on a wide range of actual print materials commonly used by adults in the various activities of their everyday lives. These materials were presented in their original layout and typography. The test items themselves represent a range of difficulty levels and have been validated through extensive field tests. Thus, to measure prose literacy, the individuals surveyed had to read and answer questions (orally and in writing) about real newspaper articles, editorials, and other expository information (which constitutes most of the prose adults read). To measure document literacy, test items of varying complexity were based on real job application forms, payroll schedules, maps, and the like. And quantitative skills were tested through the use of such materials as a bank deposit slip, an order form, and an ad for a loan.

The Framework For Interpreting Levels Of Proficiency

In the assessment, the individual scores were plotted along a vertical scale ranging from 0 to 500 for each of the three domains measured. Any point along the scale indicates the skill level needed (or demonstrated) to successfully perform the task at that level. Put another way, the scores—which range from 0 to 500 in their level of difficulty—derive meaning from their association with the ability to perform specific functional tasks that become more and more demanding as they move upward on the scale.

To provide a useful framework for interpreting the results, ETS groups the tasks and associated skills into five levels, showing the distribution of proficiencies across the levels—from the very lowest at Level 1 to the very highest at Level 5 (see table on next page). Level 1, for example, shows those individuals who scored between 0-225 on the scale, while Level 2 shows those who scored between 226-275. Persons at Level 1, in general, perform at about the level of people having between 0-8 years of education. Persons at Level 2 perform in general at the level of high school dropouts. At both levels, people have seriously low literacy skills and face major obstacles in employment and restrictions on their participation in society because of it. [Ed. Note: *Research by groups other than ETS indicates that the majority of job-related workplace activities presently require a minimum literacy level at 9th-12th grade equivalency. Furthermore, the literacy requirements of jobs are rapidly moving upward to even higher levels.*] Persons testing at Levels 3-5 have increasingly higher level skills, with those at Level 3 not now facing major barriers to participation in the workplace and society but in need of some skills upgrading to successfuly meet changing future demands.

It bears repeating that tasks falling within Level 1 and Level 2 on the three literacy scales are the least demanding in terms of what the reader must do to produce a correct response. For example, prose and document tasks at Level 1 require only that the individual enter information from personal knowledge or locate a piece of information in which there is a literal match between the question and the material provided. There are no distracting elements in the text. One Level 1 document task asks the reader to look over a simple food shopping list, and then using a supermarket ad, to circle four things on the list for which there are savings coupons in the ad.

Prose and document tasks at Level 2 begin to require readers to pull together two pieces of information or compare and contrast. Quantitative tasks at this level typically require the use of one arithmetical operation based on numbers that are stated

Proficiency Levels Of 20,037,087 Participants Served By Department Of Labor's JTPA & ES/UI Programs Between November 1989 - June 1990

[Note: JTPA accounts for 5% (1,100,000 adults) of the total DOL pool, ES/UI for 95% (18,937,087 adults).]
The percentages and numbers given below are rounded.

	Prose		Document		Quantitative	
	%	# People	%	# People	%	# People
Level 1 (≤ 225)						
JTPA	13.7	150,700	14.1	155,100	14.5	159,500
ES/UI	12.2	2,310,325	13.1	2,480,758	11.7	2,215,639
		2,461,025		2,635,858		2,375,139
Level 2 (226-275)						
JTPA	26.2	288,200	37.3	410,300	31.1	342,100
ES/UI	25.2	4,772,146	30.1	5,700,063	25.3	4,791,083
		5,060,346		6,110,363		5,133,183
Total 1 & 2		7,521,371		8,746,221		7,508,322

Notes: People at Levels 1 and 2 are seriously deficient in their basic literacy skills and severely restricted from participating in the workplace, qualifying for jobs, or functioning in our increasingly complex society.

37.5% of combined target population performs at Prose Levels 1 & 2 (39.9% of all JTPA, 37.4% of all ES/UI)

43.7% of combined group performs at Document Levels 1 & 2 (51.4% of all JTPA, 43.2% of all ES/UI)

37.4% of combined pool performs at Quantitative Levels 1 & 2 (45.6% of all JTPA, 36.9% of all ES/UI)

Level 3 (276-325)						
JTPA	38.5	423,500	35.4	389,400	37.1	408,100
ES/UI	35.4	6,703,729	35.9	6,798,414	37.4	7,082,471
		7,127,229		7,187,814		7,490,571

Notes: People at this level are not now encountering major difficulty in using printed material in work and everyday life, but they need some skills improvement to advance in jobs and assume new responsibilities.

35.6% of combined pool performs at Prose Level 3, 35.9% at Document Level 3, and 37.4% at Quantitative Level 3.

Level 4 (326-375)						
JTPA	17.0	187,000	12.2	134,200	15.1	166,100
ES/UI	22.3	4,222,970	18.5	3,503,361	21.4	4,052,537
		4,409,970		3,637,561		4,218,637

Notes: 22% of combined pool (about 1 in 5) performs at Prose Level 4, 18.1% at Document Level 4, and 21% at Quantitative Level 4.

Level 5 (≥376)						
JTPA	4.6	50,600	1.1	12,100	2.2	24,200
ES/UI	5.0	946,854	2.4	454,490	4.2	795,358
		997,454		466,590		819,558

Notes: 4.9% of combined pool performs at Prose Level 5, 2.3% at Document Level 5, and 4.1% at Quantitative Level 5.

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in the question or easily located in the document through a simple literal match. The operation needed to complete the task is either stated in the question or easily determined, based on the format of the problem — e.g. making simple entries on a bank deposit slip or on an order form.

At the highest end of the scale, Level 5, the tasks place the greatest demands on the reader. Typically, they require the reader to search for information in dense text or complex documents containing multiple, plausible distractors. Tasks at this level usually require that the reader make high text-based inferences or use specialized background knowledge. The individual might typically be asked to compare and contrast complex information in order to determine differences, or to pull features of a quantitative problem from various parts of the text, or to call heavily upon background knowledge to identify quantities and operations needed to complete a task successfully. One task, for example, uses a passage from an American Express customer notice and asks the reader to contrast two differences between old and new ways of processing receipts. Another task requires the reader to look at a document and determine how much it will cost to enroll in a four-credit biology class with a lab, assuming that one registers on time and is not a senior citizen.

The Assessment Findings In Brief

Based on the results of the national sampling, the above table shows the proficiency levels of the more than 20 million adults participating in the JTPA and ES/UI programs in mid-1990. [Note that here as in the above table, the figures are rounded.]

• Levels 1 & 2 (≤ 275). Nearly 38% of the combined target population is proficient only at Prose Levels 1 and 2. This represents more than 7.5 million individuals (more than 1 in 3) out of the total pool of about 20 million. About 44% of the combined group (more than 8.7 million people) possess Document Literacy skills at these levels, while some 37% (about 7.5 million people) are at these levels in their Quantitative skills. As the table at the left also shows, a smaller percentage of ES/UI participants fall within this range than do JTPA participants. (One explanation for the difference is that JTPA tends to serve a proportionally larger youth population.) As noted above, people at Levels 1 and 2 are seriously deficient in their basic literacy skills and severely restricted from participating in the workplace, qualifying for jobs, or functioning in our increasingly complicated society.

• Level 3 (276-325). Nearly 36% of the combined pool is proficient at Prose Level 3 (translating into about 7.1 million individuals). The corresponding figures for Document and Quantitative Literacy are about 36% and 37% respectively (some 7.2 million and 7.5 million adults). People at this level are not now encountering major difficulty in using printed material in work and everyday life, but there is room for improvement, especially if they are to advance in jobs and be well equipped for new kinds of job responsibilities.

• Level 4 (326-375). About 22% of the combined pool places at Prose Level 4 (4.4 million adults). Slightly more than 18% place at Document Level 4 (3.6 million), while 21% possess Level 4 Quantitative skills (4.2 million). Persons at this level, about 1 of every 5 in the JTPA-ES/UI pool, appear to represent "an untapped resource" for the nation. (Note that a lower percentage of JTPA participants are proficient at this level than is the case for the ES/UI group.)

• Level 5 (≥376). As might be expected at the highest level of difficulty, the numbers and percentages are dramatically smaller. Only about 5% of the combined pool performs at this level in Prose Literacy. The corresponding percentages for Document and Quantitative Literacy are even lower, about 2% and 4% respectively. People at this level also represent "an untapped res. urce." (Note again that in general there is a significantly lower percentage of JTPA participants at this level.)

Relating Literacy Proficiencies To Sub-Group Demographics

The second half of the ETS report deals with a variety of demographic and behavioral variables, based on questions asked of those in the national sample just before their skills were assessed. The data are presented in terms of mean scores across the five levels for each variable. It is the relationship of these findings to the assessment results that provides the basis for guiding program, policy, and funding decisions. [Ed. Note: *Again, to fully understand the relationships and points of comparison, readers should obtain and study the complete report. For those who wish to dig even deeper, ETS has also put out a a lengthy technical report.*] The following highlights will serve to suggest the range and richness of the findings:

JTPA-ES/UI Populations Compared. The two population groups perform about the same in Prose Literacy. However, there are statistically significant differences in Document and Quantitative Literacy, with the JTPA group doing less well overall.

ES/UI	P-290.6	D-283.6	Q-290.6
JTPA	284.2	274.3	280.6

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Gender. Across the three scales, women in both DOL programs tend to perform somewhat higher than men, but the differences are only a few points and not considered statistically significant. The one exception is for JTPA women in Prose Literacy.

ES/UI	Women	P-295.6	D-285.4	Q-289.4
	Men	287.0	282.5	291.5
JTPA	Women	P-291.3	D-277.3	Q-282.6
	Men	274.3	270.7	278.4

Age. Young people aged 16 to 25 have significantly lower literacy proficiency across all three scales than other age groups, in both JTPA and ES/UI. While young ES/UI adults do slightly better than their JTPA counterparts, it should be noted again that JTPA serves a higher percentage of young adults (36%) than ES/UI (28%) does.

ES/UI	16-20	P-276.5	D-274.7	Q-272.3
	21-25	278.7	274.8	281.9
	26-31	291.8	284.9	293.2
	32-45	297.9	290.1	297.4
	46+	297.0	284.4	294.2
JTPA	16-20	P-265.4	D-260.3	Q-262.6
	21-25	286.7	279.9	283.0
	26-31	287.6	278.2	282.6
	32-45	292.8	280.2	289.6
	46+	280.8	263.8	277.4

Race/Ethnicity. In general, Blacks and Hispanics perform about the same, though both score well below Whites. The relative parity between Blacks and Hispanics is surprising because other national databases consistently place Hispanic performance midway between Blacks and Whites. Moreover, ES/UI appears to serve a less proficient Hispanic population than would likely be the case for the nation's Hispanic population as a whole. [Ed. Note: *When the U.S. Department of Education's NALS survey results are known, probably next year, there will be a basis for comparison.*]

ES/UI	White	P-311.1	D-301.8	Q-308.5
	Black	261.7	250.7	257.9
	Hispanic	249.6	246.1	254.0
JTPA	White	P-292.8	D-284.3	Q-291.5
	Black	264.1	250.5	255.6
	Hispanic	263.0	251.7	258.0

Education Completion Level. Not surprisingly, the survey data show a very strong correlation between education completion level and literacy proficiency. The following table illustrates (average) relative literacy levels by years of educational attainment. Those in both programs with less than a 12th-grade attainment are dramatically less proficient than those at higher education levels, with individuals having less than 9th grade completion showing by far the worst results in both JTPA and ES/UI.

ES/UI			
0-8 Years	P-196.4	D-199.8	Q-211.0
9-12	249.1	247.1	251.7
HS Diploma/GED	286.1	279.4	288.4
Some PostSec	303.4	296.5	299.9
College Degree	328.8	315.1	324.6
JTPA			
0-8 Years	P-232.3	D-231.5	Q-233.9
9-12	255.3	249.5	254.4
HS Diploma/GED	291.1	283.0	289.6
Some PostSec	306.3	291.6	298.4
College Degree	339.3	321.1	336.9

It is interesting to note that those in the ES/UI pool with less than 8th- to 12th-grade completions have significantly lower proficiency than their JTPA counterparts. ETS data do not indicate why this is so but the fact that these adults are relatively older may be one reason.

Beyond what the table shows, the ETS report indicates that between 75% and 95% of the two DOL client groups having 0-8 years of education score at proficiency Levels 1 and 2. Moreover, between 65% and 72% of those with 9-12 years of education but lacking a high school diploma or GED score in the two lowest levels. In addition, about one-third of people possessing high school diplomas or GEDs demonstrated very limited skills.

Other Variables Are Also Important

Obviously all of the above variables are interrelated in highly important ways that can only be suggested here, and no one variable in isolation of the others reveals anything very useful for understanding and action. Moreover, ETS collected data on many other variables which are reported and analyzed in its report—e.g. about employment, earnings, and occupation...the presence and use of literacy materials in the home...work experiences of the two DOL groups while in high school...reasons for not completing high school...self-perceptions about literacy...and civic participation. Here are only three of the dozens of findings: More Hispanics and Blacks worked part-time while in high school than Whites. Boredom and the need to work are the major reasons Blacks and Hispanics gave for dropping out of school. Persons whose recent occupation is laborer, service worker, operative, or craft worker tend, in general, to have lower proficiency than clerical, sales, technical, managerial, and professional workers.

(Beyond the School Doors is available for $3 prepaid from Center for the Assessment of Educational Progress (CAEP), Educational Testing Service, Rosedale Road, Princeton, NJ 08541. The ETS technical report, titled Profiling the Literacy Proficiencies of JTPA and ES/UI Populations, is also available from CAEP for $3 prepaid. An order for both publications is $5.)

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